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BLM

**United States Department of the Interior  
Bureau of Land Management**

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**Decision Record  
Environmental Assessment  
DOI-BLM-UT-Y010-2014-0018EA**

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**November 2015  
Centennial Pit Backfilling Mine Plan Modification  
for the  
Lisbon Valley Copper Mine, San Juan County, Utah**

**Location:** Sections 25, 36, T. 30 S, R. 25 E

**Applicant/Address:** Lisbon Valley Mining Company, LLC  
755 North Main Street, Suite B  
Moab, Utah 84532

RECEIVED E-Mail

NOV 12 2015

Div. of Oil, Gas & Mining

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**DECISION RECORD Environmental Assessment**  
**DOI-BLM-UT-Y010-2014-0018 EA**  
**Centennial Pit Backfilling Mine Plan Modification for the**  
**Lisbon Valley Copper Mine, San Juan County, Utah**

It is my decision to reissue the Decision Record dated October 16, 2015, for the environmental assessment (EA) DOI-BLM-UT-Y0 10-2014-0018 EA, of the Lisbon Valley Mining Company LLC (LVMC) Centennial Pit Backfilling Mine Plan Modification for the Lisbon Valley Copper Mine, San Juan County, Utah. This reissued decision does not change the final decision made as described in the October 16, 2015 document, but it does provide clarification regarding the intent and the reasons as to why the decision was made.

Based on the analysis in the environmental assessment it is my decision to authorize LVMC to backfill the Centennial Pit as described in the EA as Alternative B, the Complete Backfill alternative. The alternative was developed as described in 43 CFR §3809.401 (b)(3)(iii) which includes, "...information on the feasibility of pit backfilling that details economic, environmental, and safety factors to meet the standards in §3809.420." Alternative B contains all contents of Alternative A which is the Proposed Action, and provides for additional authorization to backfill the pit to 10 feet above the ground surface. The backfill progression, as described in Alternative A, will follow pit development along successive pushbacks of the pit walls to final mining limits. The authorization does not dictate mining sequence, exclude other approved waste management practices, or prohibit future submissions for Plan of Operations Modifications. LVMC may modify the plan of operation in accordance with § 3809.430 including modifications outlined at §3809.431 (c) "Before final closure, to address impacts from unanticipated events or conditions or newly discovered circumstances or information; (6) Providing for post-closure management; and (7) Eliminating hazards to public safety."

In Alternative A, up to 75 million tons of waste rock from beds 14 and 15 will be placed into the Centennial pit to an elevation of 6,200 feet above means sea level (amsl) which is 10 feet above the Burro Canyon Formation. The purpose is to protect the Burro Canyon Formation because it is a water bearing unit and thus prevent undue and unnecessary degradation to the environment. Only beds 14 and 15 were submitted for consideration for backfill in the Proposed Action. Under Alternative B, beds 14 and 15 may be used to completely backfill the Centennial pit, but this will not preclude LVMC to submit in the future, a Mine Plan Modification to use other beds as backfill. Testing procedures for backfill material will be consistent with 43 CFR 3809.401(b)(2) and 3809.401(c)(1).

Backfilling will be accomplished by establishing an access to the target area in the form of either an in-pit haul route or a haul-back route along the pit perimeter. In the case of an in-pit haul, ramps will be constructed within the pit to allow haul traffic to access different elevations. In the proposal, haul trucks will exit the pit, travel around the rim on the surface and then dump over the rim into the target area. Backfilling will then proceed in the target area to predefined limits. When backfilling operations are completed in a target area, the process will repeat itself until all backfilling opportunities are exhausted.



Since backfilling will occur within the previously mined pit, the waste tonnage will not be added to waste dumps located outside the pit. Based on the current mine schedule and fleet capacity, approximately seven (7) million tons per year will be backfilled into the pit.

In accordance with the approved LVMC Waste Rock Management Plan, waste rock that has acid-generating potential will be segregated by trained personnel and placed in appropriate, designated areas. No acid-generating waste rock will be placed within the pit backfill. It will all be encapsulated within non-acid generating waste rock in the waste rock piles on the surface, per the current Plan of Operations and the waste rock management plan.

LVMC will monitor the backfilling project in accordance with the Utah Department of Environmental Quality (UDEQ) Groundwater Discharge Permit (see EA reference section for UDEQ 2015) and Waste Rock Monitoring Plan (see EA reference section for LVMC 2005). The groundwater monitoring will extend to a period of at least 5 years following mine closure (see EA reference section for BLM 1997c). An additional monitoring well will supplement the existing monitoring wells in the Burro Canyon aquifer.

The groundwater-monitoring program for the Lisbon Valley Mine includes routine monitoring of water level elevations and water quality. During backfilling operations, water levels will be measured quarterly during operations in 12 monitoring wells and piezometers and these measurements will be presented in the quarterly sampling reports submitted to UDEQ, DOGM and BLM. Water levels in active pumping wells and observation piezometers located near the pits will be measured monthly for operational purposes, and the data are presented in the Hydrogeologic Update Report submitted annually to BLM, DOGM and UDEQ. Water levels would be measured in accordance with the standard operating procedures. Time-contiguous water level data will be collected to the extent possible. Water quality will be sampled routinely in monitoring wells and water supply wells at the Lisbon Valley Mine.

Temporary and seasonal closures are not planned. In the event of an unplanned closure is anticipated, an interim management plan will be developed for review by the BLM. Such a plan would address securing access to the mine area, safeguarding the public, wildlife, and livestock from possible injury on mine property, and protecting the environment from releases of toxic or hazardous materials.

Interim management outside the pit area is provided by surface water diversion in accordance with the Utah Department of Environmental Quality Division of Water Quality (see EA reference section for UDWQ)-approved LVMC Stormwater Pollution Prevention Plan (SWPPP) (see EA reference section for LVMC 2013b). Stormwater discharges from construction activities such as clearing, grading, excavating, and stockpiling, that disturb one or more acres, (or smaller sites that are part of a larger common plan of development) are regulated under the National Pollutant Discharge Elimination System (NPDES) stormwater program. Operators obtain a permit under the NPDES program that details requirements such as compliance with effluent limits and the development of the SWPPP.

The reclamation plan shall continue as currently approved with the exception that a mixture of rock from beds 14 and 15 of the Burro Canyon Formation would be used to backfill



Centennial Pit. The proposed backfilled area will be capable of re-vegetation and would be re-seeded from the air with a BLM-approved seed mix to reduce the potential for erosion of the reclaimed area and return the proposed backfilled area to a future condition capable of providing productive habitat for wildlife or forage for livestock.

There is no requirement to control erosion or runoff (meteoric water run off) in the interior of the open pit. However, the same is reduced as a result of backfilling due to the concomitant reduction of pit surface area. Outside the pit, surface runoff is diverted around the pit in accordance with the approved Storm Water Pollution Prevention Plan (SWPPP) (see EA reference section for LVMC 2013b). Backfilling the pit will serve to buttress the walls and will provide additional stability relative to the final height. Stability is increased by additional backfill.

**Authorities:** The authority for this decision is contained in the General Mining Act of 1872, as amended, the Federal Land Policy Management Act of 1976, and regulations at 43 CFR 3809.

**Compliance and Monitoring:** Compliance inspections will be conducted by the BLM during the life of the project or as required by law, to ensure compliance with regulations at 43 CFR 3809 and 3715, including all conditions of approval. Reclaimed areas will be monitored by the BLM until vegetation is successfully restored.

In addition to ensuring compliance with the performance standards specified in 43 CFR 3809.420, the LVMC will conduct monitoring and compliance activities as follows under terms/conditions/stipulations

**Terms / Conditions / Stipulations:** Potential resource impacts from the Proposed Action will be mitigated through the use of Applicant-Committed Project Design Features identified in Chapter 2.0 of the EA. The Applicant-Committed Project Design Features summarized below are included as conditions of approval to this decision.

- Backfill material shall reach a minimum elevation of 6,200 feet amsl to prevent undo and unnecessary degradation.
- Backfill material shall be limited to beds 14 and 15. The final composition of the backfill will be not greater than 25% (twenty-five percent) bed 15 material. Backfill material must be reported in accordance with the current waste rock handling procedure and the waste proportions documented. Backfill will continue with beds 14 and 15 until backfilling opportunities are exhausted or until a mine plan modification is submitted to authorize other beds for backfill.
- Water levels shall be measured quarterly during operations in 12 monitoring wells and piezometers and these measurements shall be presented in the quarterly sampling reports submitted to UDEQ, DOGM and BLM.



- Water levels in active pumping wells and observation piezometers located near the pits shall be measured monthly and the data presented in the Hydrogeologic Update Report submitted annually to BLM, DOGM and UDEQ. Water levels shall be measured in accordance with the standard operating procedures.
- The required Analytical Suite for groundwater monitoring at the Lisbon Valley Mine is provided in the Utah Department of Environmental Quality (UDEQ) Groundwater Discharge Permit. Results shall be presented in the quarterly sampling reports submitted to UDEQ, DOGM and BLM.
- LVMC shall notify the BLM of any exceedance of groundwater protection limits within 30 days of the initial detections as defined in Part1 (F.) Non-Compliance Status of the State of Utah Groundwater Quality Discharge Permit Number UGW37005.
- In the event of a confirmed exceedance of groundwater protection limits, LVMC shall submit to the BLM the Source and Contamination Assessment Plan as described in Part1 (F.)(2)(c.) Out-of-Compliance Status Based on Confirmed Exceedance of the State of Utah Groundwater Quality Discharge Permit Number UGW37005.
- Waste rock that has acid-generating potential shall be segregated by trained personnel and placed in appropriate, designated areas in accordance with the approved LVMC Waste Rock Management Plan.
- The LVMC lab will analyze waste rock samples on a quarterly basis to determine acid neutralization potential (ANP), acid generation potential (AGP), and Net Neutralization Potential (NNP) using a sodium hydroxide back titration procedure. Results will be made available on request. Results will be reported to the BLM and UDOGM on an annual basis.
- On a quarterly basis, the LVMC will composite samples of each rock type and analyze the samples to determine the potential for dissolution and mobility of eight metals, including antimony, arsenic, uranium, cadmium, copper, molybdenum, selenium, and zinc in accordance with the Meteoric Water Mobility Procedure (MWMP).
- Waste rock reporting shall include sample location, elevation, sampling date, rock type, and analytical result. Reports will identify the samples used for quarterly MWMP analysis, and relate the results.
- The reclamation plan shall continue as currently approved in addition to the approved waste rock from beds 14 and 15 of the Burro Canyon Formation to be used to backfill the Centennial Pit until closure or until a mine plan modification is submitted to authorize other beds for backfill.



- LVMC shall manage the pit during backfilling operations with fencing, berms, and re-seeding signage in accordance with the Mitigation and Monitoring Plan (see EA reference section for BLM, 1997c). This shall include surface water management in accordance with the SWPPP and long term groundwater monitoring in accordance with the reclamation bond.
- The waste rock sampling results shall be used to ensure that appropriate configuration of bed 14 and 15 materials was utilized as backfill. The LVMC will produce an as-built map of the backfill documenting the location and extent of each rock type. Each map will be drafted in layers, with each layer representing three months of waste emplacement. The as-built back fill maps shall be included in the annual report.
- Fencing and berms shall be constructed in accordance with Mitigation and Monitoring Plan (see EA reference section for BLM 1997c) to deter unauthorized access, and prevent access by wildlife and livestock during backfilling.
- The LVMC shall utilize a certified weed-free seed mix that when fully established, shall provide a self-sustaining plant community that is reflective of pre-disturbance vegetation. The sagebrush/perennial grassland seed mix in the table below will be used on all reclaimed surfaces.

*Sagebrush/Perennial Grassland (Sandy Soils) Seed Mix*

Common Name	Scientific Name	Drill Seed Application Rate (pounds/acre)
Indian Ricegrass	<i>Oryzopsis hymenoides</i>	3
Blue Grama	<i>Bouteloua gracilis</i>	0.5
Bottlebrush Squirreltail	<i>Sitanion hystrix</i>	1
Galleta	<i>Hilaria jamesii</i>	2
Wyoming Sagebrush	<i>Artemisia tridentata</i> ssp. <i>Tridentate</i>	4
Winterfat	<i>Ceratoides lanata</i>	4

The application rates shown in the table above is based on 45 pure live seeds per square foot, drill-seeded to a depth of 0.25 to 0.5-inch, which is the method that will be used where feasible.

In areas that will not be drill-seeded, the seed mix shall be broadcast-seeded at twice the application rate shown in the table above. If the site is harrowed or dragged, seed will be covered by no more than 0.25-inch of soil. No seeding shall occur from April 15 to September 15. Dormant fall, winter, or very early spring seeding is preferred. Seed tags shall be provided to the BLM prior to initiation of seeding activities.

- Where applicable, the mitigation techniques such as surface roughening and mulching shall be used to keep water on site, thereby enhancing revegetation of the site and controlling erosion and runoff. All erosion control devices and materials shall be installed



and maintained to be fully functional until revegetation is determined successful by the BLM. Mulch, silt fencing, waddles, hay bales, and other erosion control devices shall be used on areas at risk of soil movement from wind and water erosion.

- Mulch shall be used if necessary to control erosion, create vegetation micro-sites, and retain soil moisture and may include hay, small-grain straw, wood fiber, live mulch, cotton, jute, or synthetic netting. Mulch shall be free of mold, fungi, and free of invasive species and noxious weed seeds. If straw or hay mulch is used, it shall contain fibers long enough to facilitate crimping and provide the greatest cover. The LVMC may investigate the use of hydromulch to facilitate and enhance reclamation efforts, if necessary.
- The LVMC shall monitor reclaimed areas. Monitoring shall be performed to ensure timely achievement of the long-term reclamation goals, to document accomplishments in achieving those goals, and to identify adaptive management needs. Actions will be taken to ensure that reclamation standards are met as quickly as reasonably practical.

#### **PLAN CONFORMANCE AND CONSISTENCY:**

The proposed action has been reviewed and found to be in conformance with the Moab Resource Management Plan (RMP), October 31, 2008. Specifically, the decisions made in the RMP that apply are as follows:

##### *Page 73: Minerals Goals and Objectives*

Provide opportunities for environmentally responsible exploration and development of mineral and energy resources subject to appropriate BLM policies, laws and regulations.

##### *Page 74: MIN-6*

Existing operations will continue to be subject to the stipulations developed for the notice of the plan of operations. The BLM will evaluate all operations authorized by the mining laws in the context of its requirement to prevent unnecessary and undue degradation of the Federal lands and resources. Consistent with the rights afforded claimants under the mining laws, operations conducted after this RMP will be required to conform to the surface disturbing stipulations developed in this RMP.

##### *Page 74: MIN-7*

Operations on BLM-administered lands open to mineral entry must be conducted in compliance with BLM's surface management regulations (43 CFR 3715, 3802, 3809, and 3814). BLM surface management regulations do not apply to operations on other Federal lands but do apply to split-estate lands.



The Proposed Action and alternatives are consistent with the goals and objectives of the San Juan County Master Plan. The San Juan County Plan emphasizes the importance of investing in a strong, diversified year-round economy. With respect to the mineral industry, the county would continue to support the growth and development of these industries as opportunities present themselves and new technologies develop.

**Alternatives Considered:** The EA considered three alternatives: Alternative A, the Proposed Action; Alternative B, Complete backfill; and, the No Action Alternative. Under the No Action Alternative, the proposed backfill would not take place; if the proposed mining activities were determined by the BLM to cause unnecessary or undue degradation of public lands. There is no new surface disturbance proposed under Alternative A and B. The inside of the berm and pit rim of the Centennial Pit is 176 acres. Complete backfilling would reclaim an additional 55 acres for a total acreage of 231 acres.

**Rationale for Decision:** Alternative B, the Complete Backfill alternative is selected because surface disturbance will be limited to the minimum to accomplish the purpose and need while attaining the minimum elevation to protect water resources. The selective handling of the waste rock includes removal of acid generating material from the pit area and having it encapsulated on the surface. Backfilling is authorized proceed to 10 feet above grade with approved backfill materials so the final configuration would attain at least 75percent bed 14 materials. Alternative B will be conducted in accordance with the performance standards outlined at 43 CFR 3809.420 and would not create unnecessary or undue degradation of public lands.

The partial backfill alternative, Alternative A, was not selected because of the final configuration results in a topographic depression requiring monitoring and maintenance. The topographic depression may have resulted in seasonal ponding and require berms and fences to mitigate physical hazards and waste water runoff.

The No Action Alternative was not selected because the mined-out Centennial Pit would still be left open and un-reclaimed, with the likelihood of a pit lake forming. A 3-foot berm would be constructed around the mined pit within 50 feet of the pit edge, designed to drain surface water runoff away from the pit and discourage access. In the case of pit lakes forming, groundwater impacts to adjacent and lower groundwater aquifers could occur due to (1) evapoconcentration of solutes (e.g., metal oxyanions such as antimony, arsenic, cadmium, copper, molybdenum, selenium, uranium, and zinc), (2) high TDS, and (3) high pH levels. In addition, wildlife (principally water fowl) would be attracted to and therefore exposed to any pit lake that would form. Long-term testing of post-mining pit lake water would be required under the No-action alternative.

In accordance with regulations found at 43 CFR 3890.411(c), the BLM solicited input regarding the Proposed Action through a scoping and public review process through a press release and as a legal notice in the San Juan Record that appeared in the San Juan Record on April 15, 2014. The scoping period began on April 9, 2014 and ended on May 12, 2014. The EA was made available for a 30 day public comment period was from July 31, 2015 to August 30, 2015.



### **Protest/Appeal Language**

If you are adversely affected by this decision, you may request that the BLM Utah State Director review this decision. If you request a State Director Review, the request must be received in the BLM Utah State Office at 440 West 200 South, Suite 500, Salt Lake City, Utah 84101-1345, no later than 30 calendar days after you receive or have been notified of this decision. The request for State Director Review must be filed in accordance with the provisions in 43 CFR 3809.805. This decision will remain in effect while the State Director Review is pending, unless a stay is granted by the State Director. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted.

If the State Director does not make a decision on your request for review of this decision within 21 days of receipt of the request, you should consider the request declined and you may appeal this decision to the Interior Board of Land Appeals (IBLA). You may contact the BLM Utah State Office to determine when the BLM received the request for State Director Review. You have 30 days from the end of the 21-day period in which to file your Notice of Appeal with this office at 82 East Dogwood Avenue, Moab, Utah 84532 which we will forward to IBLA.

If you wish to bypass a State Director Review, this decision may be appealed directly to the IBLA in accordance with the regulations at 43 CFR 3809.801(a)(1). Your Notice of Appeal must be filed in this office 82 East Dogwood Avenue, Moab, Utah 84532 within 30 days from receipt of this decision. As the appellant you have the burden of showing that the decision appealed from is in error. Enclosed is BLM Form 1842-1 that contains information on taking appeals to the IBLA.

This decision will remain in effect while the IBLA reviews the case, unless a stay is granted by the IBLA. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted.

### **Request for a Stay**

If you wish to file a petition pursuant to regulations 43 CFR 4.21 for a stay of the effectiveness of this decision during the time that your appeal is being reviewed by Interior Board of Land Appeals (IBLA), the petition for a stay must accompany your notice of appeal. A petition for a stay is required to show sufficient justification based on the standards listed below. Copies of this notice of appeal and petition for a stay must also be submitted to each party named in the decision and to the IBLA and to the appropriate Office of the Solicitor (see 43 CFR 4.413) at the same time the original documents are filed with this office. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted.

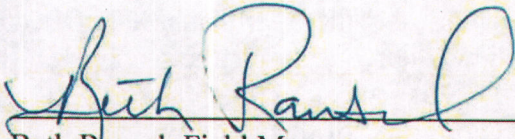
### **Standards for Obtaining a Stay**

Except as otherwise provided by law or other pertinent regulation, a petition for a stay of a decision pending appeal must show sufficient justification based on the following standards:

1. The relative harm to parties if the stay is granted or denied.
2. The likelihood of the appellant's success on the merits.
3. The likelihood of immediate and irreparable harm if the stay is not granted.



4. Whether the public interest favors granting the stay.

  
Beth Ransel, Field Manager

Date 11/10/15